

ABSTRACT

By using a target voltage V_c^* of a capacitor connected to the output side of a DC/DC converter and a voltage V_b of a battery connected to the input side of the DC/DC converter, a duty ratio D (V_b/V_c^*) as a drive instruction of the DC/DC converter is calculated (S100, S102). By using the voltage V_b , the electromotive force V_{bo} of the battery, and the charge/discharge current I_b of the battery, an internal resistance R_b ($(V_{bo}-V_b)/I_b$) is calculated (S104). According to the internal resistance R_b and the electromotive force V_{bo} , the current value (value $V_{bo}/2R_b$) when the battery output becomes maximum is set as the upper limit value of the optimal current range I_R (S106), the DC/DC converter is driven/controlled by limiting the duty ratio D so that the current I_b is within the range of the optimal current range I_R (S108, S110, S112). Thus, it is possible to appropriately convert the battery input voltage.